PRASHANT PRASAD KANTH

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Ph: (848) 437-1577 | **Portfolio:** kanthprashant.github.io | **LinkedIn:** prashantpdkanth | **GitHub:** kanthprashant

EDUCATION

MS, Computer Science | *Rutgers University-New Brunswick (CGPA: 4.0)* **Sep 2021 - May 2023**

BE, Computer Science and Engineering | *Bangalore Institute of Technology (Percent: 77)* **Aug 2013 - Jun 2017**

TECHNICAL SKILLS

Languages: Python, SQL, Java, C++, HTML, JavaScript **| IDEs:** VS Code, Jupyter Notebook, Eclipse, IntelliJ **| Cloud:** Oracle, AWS

Frameworks and Tools: PyTorch, TensorFlow, OpenCV, HuggingFace, NumPy, Pandas, NLTK, Gensim, PySpark, Flask, Git, JIRA

PROFESSIONAL EXPERIENCE

Artrendex | New Jersey, US **Jun 2022 - Sep 2022**

Machine Learning Research Intern (stack:** Python, PyTorch, OpenCV, Tensorboard, Numpy, Pandas, skimage**)

- Improved reusability of data pipeline by generalising pre-processing and overriding **PyTorch's** Dataset class to reduce manual labor by 10%.
- Applied **transfer learning** technique on deep learning models like **VGG**, achieving 94% test accuracy in art classification.
- Researched on positional encoding options and explored **3D CNN** variation of **Resnet**, **'R3D-18'**, for art classification.

Oracle | Bangalore, India **Jul 2017 - Jun 2021**

Cloud Consultant (stack:** Oracle SQL, Relational Databases, Java, Python, sklearn, Gensim, NLTK, Oracle BI, REST APIs**)

- Managed **end-to-end integration** and **report development**, mitigating risk to ensure successful delivery.
- Built an error analysis tool by utilising a meta-classifier with **LogisticRegression** and **MultinomialNB** achieving 92% accuracy on error classification, reducing manual error analysis by 75% during data migration.
- Developed over 50 **SQL** reports analysing data from multiple tables, providing insights into critical business functions.
- Created a data transformation solution leveraging **PySpark** to process raw CSV files and prepare them for efficient data migration into **Oracle HCM Cloud**, resulting in a 40% acceleration in **ETL** iterations.

PROJECTS

Virtual Trial Room | (*stack: Python, PyTorch, Flask, OpenCV, PIL, Mediapipe, NumPy, Javascript**)** **Mar 2023 - Apr 2023**

- Performed **hyperparameter tuning** to train **attention** based virtual try-on network, enabling it to accurately warp a source garment onto a reference human body and synthesize photorealistic images.
- Created a streamlined pipeline for rapid model inference, incorporating pre-processing steps such as **body segmentation** and **keypoints generation**.
- Designed resilient **Flask APIs** to manage tailored GET and POST requests, and integrated with project frontend.

Patient Monitoring using Activity Recognition | (*stack: Flask, Keras, OpenCV, Unity3D, AWS**)** **Oct 2022 - Nov 2022**

- Trained a **CNN-LSTM** model on synthetic data to monitor and generate report on daily activities of patients across 6 different categories, achieving 82.4% test classification accuracy on real-world activity videos.
- Deployed the trained model using **AWS Sagemaker** and integrated **API gateway** with **AWS Lambda** to invoke the endpoint for efficient inferencing.

Querying on Streaming Data | *(stack: Python, Apache Spark, boto3, Pandas, AWS Glue, AWS Athena**)*** **Sep 2022 - Oct 2022**

- Designed **PySpark** data streaming pipeline for real-time visualization of scholarly works across diverse research domains.
- Reduced 30% preprocessing time on approx. 130 GB (40M records) of data by utilizing **AWS Glue** and **AWS Athena**.
- Performed efficient data transformations with **MapReduce** and **SparkSQL**, achieving 85% reduction in storage space.

Text-Conditional Image Generation | *(stack: Python, PyTorch, Hugging Face, OpenCV, NumPy**)*** **Mar 2022 - May 2022**

- Implemented a **Deep Convolutional GAN** in multi-GPU setting to generate 256x256 images from textual descriptions.
- Employed 3 text encoders **(DistilBERT, CLIP and char-CNN-RNN)** to obtain text embeddings and compared their results.
- Improved model training by using 3 different methods: Label Smoothing, Label Noise and Wasserstein-Gradient Penalty.

The Imitation Game | (*stack: Python, Keras, NumPy, Pandas, matplotlib**)** **Oct 2021 - Nov 2021**

- Trained a **CNN** model to imitate movement of an agent within a maze, achieving 98% accuracy for optimal path prediction
- Collected training data with 5x5 kernel, from simulation of an agent's movement within a grid using **A-star** algorithm

CERTIFICATIONS

Deep Learning Specialization **|** AWS Cloud Technical Essentials **|** Introduction to Machine Learning on AWS **|** Machine Learning **|** NoSQL, Big Data, and Spark Foundations Specialization **|** Oracle Database SQL Certified Associate

EXTRA-CURRICULAR

Rutgers University | New Jersey, US

- Teaching Assistant (Computer Vision) **Feb 2023 - May 2023**
- Teaching Assistant (Discrete Mathematics) **Feb 2022 - May 2022**